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Article

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Effects of Tacit Knowledge on the Performance of Selected Universities in Kenya

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Abstract: Tacit knowledge (TK) is non-codified and personal (sticky) knowledge that is difficult to transfer. TK cannot be said to be significant if there is a lack of tangible contributions. Universities can only realize such returns when there is growth in terms of (financial base, products, processes, customer base, employees' loyalty) financial and non-financial indicators. The main objective of the research was to evaluate the effect of TK on organizational performance in selected universities in Kenya. The study adopted a mixed research approach as informed by pragmatism research paradigm. Data was collected from a study population of 65 respondents from four study sites which were Kibabii University, University of Nairobi, KCA University, and the University of Eastern Africa, Baraton. Semi-structured questionnaires were administered to academic deans; directors of research, innovation, and ICT; and heads of library services as well as planning and administration. Qualitative data was analyzed through conversation analysis, content analysis, and R which is a computer-assisted data analysis software. Chi-square tests, as well as multinomial logistic regression, were used for the quantitative data analysis. The findings of this study indicate that universities value TK as a key asset for organizational performance. The study identified TK as an asset that has helped institutions to grow in terms of work processes, decision making, and the creation of new products and/or services.

Keywords: organizational performance; explicit knowledge; tacit knowledge; financial focus; human focus; process focus; development focus.

Introduction

Determining the value of knowledge remains problematic. Knowledge should be managed and used as a resource that adds value to the activities undertaken for the growth and sustainability of an organization. Creating value is ultimately the organization's goal. Landry, Amara, Pablos-Mendes, Shedemani, and Gold (2006) suggest that the value of knowledge in organizations can be seen through the concept of a knowledge value chain. Adhikari (2010) claims that the impact of knowledge management (KM) on an educational institution's performance is strongly tied to its ability to identify where knowledge resides and its use for the benefit of students and society. This implies that the proper utilization of tacit knowledge (TK) increases organizational performance.

An organization's core competency is more than the explicit knowledge (EK) of "know-what''; it requires the more tacit "know-how'' to put "know-what'' into practice (Brown & Duguid, 1998). Bratianu and Orzea (2013) postulate that a university may have great potential for intellectual capital based on the human capital element. It makes it clear that tacit knowledge is a necessity for improving performance and thus a competitive advantage. TK makes work go smoothly, it increases the quality of the work and it often characterizes a master of his or her profession. The efficiency of making decisions, serving customers, or producing goods is improved by the use of tacit knowledge. Also, the accuracy of task performance is improved by the use of TK (Brockmann & Anthony, 1998).

TK in crucial areas of the organization obstructs copying by outsiders and therefore strengthens the competitive advantage (Brown & Duguid, 1998; Leonard & Sensiper, 1998) if it not shared.

Universities are among the key organizations for creating, preserving, sharing, and utilizing tacit knowledge because they are engaged in research and innovative activities (Bratianu, 2014). Kidwell, Linde, and Johnson (2000) argue that if sharing knowledge is the "raison d'être" of higher education institutions (HEIs), they should leverage knowledge to spur innovation and achieve operational excellence. Further, Kidwell et al. (2000) insist that seldom organization can convey these capabilities. Similarly, Norris, Mason, Robson, Lefrere, and Collier (2003) point out that few colleges and universities feel the need to use their knowledge assets to achieve strategic differentiation.

As noted by Kiamba (2005), public universities in Kenya have commercialized most of their services and hence heavily rely on their staff for quality services and products. Naris and Ukpere (2010) observe that every educational institution wants to have a competitive edge to attract more students and potential employees. It is through effective management of human capital that they will be able to have a competitive advantage by ensuring continuity and sustainability in the provision of quality services and products.

Organizational performance of universities in Kenya can be measured against the following indicators: growth in research and innovation capital, funds generation and sourcing, human capital development, cost reduction, service delivery, apprenticeship, cost-effectiveness, and customer satisfaction among others. Tacit knowledge management (TKM) practices may differ from one university to the other and differences in such practices may lead to differences in the performance of various universities. Halawi, Aronson, and McCarthy (2005) suggest that sustainable competitive advantage depends on building and exploiting core competencies and having strategic assets that are rare, valuable, non-substitutable, and imperfectly imitable. Knowledge sharing may lead to higher organizational performance (Du, Ai, & Ren, 2007; Lefter, Bratianu, Agapie, Agoston, & Orzea, 2011) especially when knowledge sharing capabilities are combined with organizational resources (Widen-Wulff & Suomi, 2007). Mugwanga (2014) identifies the measures of performance to be quality of service and products, delivery time, flexibility, reliability, and efficiency of service delivery.

Literature review

Polanyi (1966) views TK as the backdrop against which actions are understood. He introduced the concept of "tacit dimension" to describe knowledge that has been embodied, embedded and is difficult to express (Davenport & Pursak, 1998; Nonaka, 1994; Stenmark, 2002). TK, as a result of the tacit dimension, is therefore seen as highly personal and difficult to formalize since it is based on the experiences and actions of an individual (Nonaka & Takeuchi, 1995).

Khan and Harsh (2020) conducted a study on the significance of knowledge re-use in three-dimensional academic environments (Socialization, Externalization, and Internalization) in India. The research aimed at studying reuse of tacit and explicit knowledge, particularly reusable tacit knowledge (by sharing or transfer) in HEIs, and finding whether tacit knowledge influences maintainable viable benefits when restrained by top organization support. The study found out that knowledge re-use is an abstract version to combine tacit and explicit knowledge through socialization. The study addresses tacit and explicit knowledge jointly which displays a limitation by demonstrating that there is an equal value of tacit and explicit knowledge in universities. This justifies the direction the current study takes. The current study adopted a mixed

research approach to primarily focus on TK as opposed to a literature review done by (Khan & Harsh, 2020).

Hoq and Akter (2012) explored the role of knowledge workers in universities in Bangladesh. Their findings indicated that the role of knowledge workers is quite significant since universities need to build good information infrastructure and create a conducive atmosphere where all the stakeholders such as teaching and non-teaching staff, students, and researchers can take part in various KM activities. Ozmen (2010) conducted a study on the capabilities of the educational organizations in making use of tacit knowledge. The study aimed to find out the importance and management of tacit knowledge in HEIs in Turkey. The study noted that TKM is a perfect issue for making change and improvement in HEIs. This because TK helps in effective research and development in society through most HEIs that are not capable of utilizing tacit knowledge.

Muthuveloo, Shanmugam, and Teoh (2017) studied the impact of TKM on organizational performance in Malaysia. The study aimed at looking at TKM strategies that can enhance organizational performance. The outcome of the study showed that TKM has a significant influence on organizational performance. Also, two processes from Nonaka and Takeuchi (1995) knowledge conversion model – socialization and internalization - were found to have a significant influence on TKM on organization performance. Bratianu and Bejinaru (2019) show the importance of having a holistic view of the knowledge fields within universities.

Another study in universities in Malaysia was conducted by Mohayidin, Azirawani, Kamaruddin, and Margono (2007) to evaluate how KM enhances the performance of universities. The main objective of the study was to assess the level of KM practices among the academics and to determine the factors contributing to the effectiveness of KM practices at individual, faculty, and university level. The results indicated that info-structure support; infrastructure capacity; info-culture; and knowledge acquisition, generation, storage, and dissemination are important factors in shaping the KM initiatives in Malaysian universities.

Ohiorenoya and Eboreime (2014) examined the relationship between KM and performance among different universities in Nigeria. The study found out that there were disparities in KM practices at the different universities which led to variations in differences in organizational performance. In addition, the study established that KM was statistically positively related to overall performance in terms of innovation, growth, and competitive advantage. Further, they recommended a leadership commitment to ICT to grow and harness knowledge in the universities. This was supported by Ohiorenoya and Eboreime (2014) who stated that any university that needs to innovate, compete, and grow in a globalized environment can ill-afford to ignore ICT. Their study was quantitative and established a broad spectrum of KM features but TKM features were not distinctive which the current study displays. Also, the current study identifies people as the major facilitators of TKM, ICT is only a driver, without people ICT cannot deliver. Moreover, universities must develop a governance model capable of stimulating knowledge-based performance (Bratianu & Pinzaru, 2015a, b).

Anduvare (2015) conducted a KM assessment at the Marist International University College (MIUC), Nairobi, Kenya to identify and recommend a suitable strategy for KM assessment at the institution. The study revealed a variety of informal KM structures and resources at the MIUC. The study also established that there are substantial KM processes at the MIUC spread out over the various departments; KM is not undertaken formally; there is goodwill from the leadership to support KM initiatives although it was indicated

that financial constraints may hinder the efforts; there is a good base for ICT infrastructure in terms of availability of computers and Internet connectivity, and there are several policies at the college, but none is specific to managing knowledge.

Also, the study established seven types of strategies that can be used to manage and safeguard knowledge: i) Tacit and explicit-oriented KM strategy. Tacit oriented focuses on knowledge in people's minds. Explicit orientation focuses on coding and storing organizational knowledge; ii) Personalization and codification strategy. Personalization strategy encompasses the process of transferring knowledge directly through interactions. Codification strategy encompasses the process of codifying and storing knowledge; iii) System and human-oriented strategies. System oriented strategy focuses on the storage of explicit knowledge via technology. Human-oriented strategies focus on sharing knowledge informally through personal interactions; iv) Process-oriented KM strategy- this is where each KM project is developed around an organizational process and the mission, rationale, objectives, and scope of the project defined (Kwan & Balasubramanian, 2006); v) Dynamic strategy focuses on firms aligning their strategies with knowledge characteristics; vi) Passive strategy allows informal knowledge flows and KM practices, and vii) Bottom-up and top-down KM. The Bottom-up often starts with a small core of interested and active supporters. A top-down approach is likely to receive a lot of support from management as they will give directions on the organizations' activities and KM initiatives to be practiced, which may be an imposition.

Also, six critical components of a KM strategy were established: KM vision, business strategy, and objectives; budget and cost-benefit analysis; knowledge mapping and expertise identification; inventory of KM resources and structures derived from the results of a KM assessment conducted; approach or select KM strategy; and measurement and implementation plan. Finally, the study reveals that the success factors to KM implementation are: technology; knowledge identification, capturing, sharing, access, storage, and use; knowledge champions; training; organizational culture; management support and leadership; strategy; knowledge infrastructure; budget; and measurement. Anduvare (2015) proposes a KM strategy with critical elements of both tacit and explicit knowledge as an entity. This, therefore, creates an overlapping structure in the management of knowledge resources in academic institutions.

Methodology

Research design

The current study adopted mixed methods research as informed by pragmatism. Quantitative data from close-ended questions were used to complement the qualitative data from the open-ended questions for better understanding and output of the research problem. The current study adopted concurrent design which is the most common approach used across disciplines (Creswell & Clark, 2011). The design was adopted because it allows for collection and analysis of both quantitative and qualitative during the same phase of the research process and then the results from the two sets merged into an overall interpretation. Concurrent sampling strategies allow researchers to triangulate results from the quantitative and qualitative components of their research and confirm, cross-validate, or corroborate their findings in a single study (Creswell, 2003). Additionally, it is imperative to note that the sample was of an identical relationship.

The study was conducted in schools or faculties, ICT, research and innovation centers, libraries, and in the performance contracting (PC) section under the planning and administration divisions in four selected universities in Kenya. These are two public

universities: The University of Nairobi (UoN), Kibabii University (KIBU), and two private universities, which are the University of East Africa, Baraton (UEAB), and KCA University (KCAU). The selection of the said institutions was done based on the volume of tacit knowledge which was determined by the year of establishment of the universities. Earlier established universities have more tacit knowledge but also stand to lose the same as more staff retire or leave; they also have built cultures that may be difficult to break in terms of best practices and image recognition. The recently established universities, on the other hand, have not fully established their structures and human resources because of being in the process of development. Also, some of the old universities are unique in terms of their geographic location which provides access to diversified clientele and access to new technology, hence information-rich for the current study.

Given that the focus of the study is on TKM, the study population is knowledge workers who comprised of high-level individuals who apply theoretical and analytical knowledge acquired through formal training, to develop products and services (Drucker, 1995). Knowledge workers fall under three categories; knowledge users, knowledge creators, and knowledge facilitators. The target population for the current study was knowledge facilitators (KFs). KFs is a special category of knowledge workers. Oshri (2006, p.492) indicates that "KFs ensure that knowledge is captured, indexed, and made available for reuse". They have good communication skills, a growth-motivated mindset, and intellectual capabilities.

Guided by the definition and attributes of KFs, the current study sampled both academic and administrative university staff at senior levels in the four universities in Kenya. The sample was purposively identified as core study subjects. This is because of their primary role as facilitators of TKM processes in the universities. They are also crucial and actively involved in the various practices, steps, and structures of management and application of tacit knowledge. All the key informants; deans in schools, and heads of planning and administration, library services, ICT, research, and innovations at the UoN, KIBU, UEAB, and KCAU were identified. A list of accredited universities from the CUE website was used as the sampling frame. Universities were stratified into public and private to constitute two sub-groups after which each stratum was sampled as an independent sub-population from which individual elements were selected systematically. A census survey was used to obtain data from all the 65 key informants as follows; forty-five (45) deans; 32 from UoN, five from UEAB, four from KIBU and KCA respectively, four heads of, PC, research, innovation, ICT, and library divisions from the two public universities and two chartered private universities in Kenya.

Deans would provide information on how they handle and manage the TK assets in their schools. They also are important in providing information on mentorship programs and details of how they support TK activities. The heads of PC are important because they are the personnel who monitor the quality of products developed and services offered by the university staff. This category was identified because they are directly linked to performance. The heads of research and innovation, on the other hand, are equally important in providing information on innovative products and services and policy elements, since research and innovation are as a result of TKM. Also, head librarians are important individuals to provide information on the types of knowledge they manage, how they create, acquire and disseminate knowledge to the university community because it is a key area of specialty as knowledge workers. ICT directors are important because they are in charge of KM systems in the institutions. They are in charge of the knowledge structures and processes. All the six categories of the respondents are knowledge facilitators, policymakers, and decision-makers who are essential to the functioning of the universities.

Data collection and analysis

Data collection is the systematic approach to gathering and measuring information from a variety of sources to get a complete and accurate picture of an area of interest (Rouse, 2016). Primary data was collected by asking questions and observing without getting involved. The survey method was chosen for the current study because of having a flexible format. It allows both closed and open-ended questions which yield both quantitative and qualitative data which is a rich data collection method, especially for mixed research. It is also easy and convenient for respondents because it provides room in the question and answer sessions (Walliman, 2011). Semi-structured questionnaires were physically administered by the researcher to the deans, heads of, ICT, libraries, research, innovation, and PC sections in the selected universities. Before proceeding to the field, the researcher booked appointments and made confirmation calls. The respondents provided their most appropriate time for days the exercise was scheduled. Each participant spent at least 40 minutes guided by the researcher. Data was recorded to allow further transcribing into written text and analysis. A dedicated notebook was used to record further responses that emerged during the process.

The observation was used for recording data about TKM activities and processes, the nature and conditions of objects, such as buildings, laboratories, meeting rooms, innovation hubs, incubation centers, libraries, and lecture lounges. This method is helpful because it helps the subjects to demonstrate their understanding of a process better by their actions than by verbally explaining their knowledge. Observation can also be used to record both quantitative and qualitative data which is the case with the current study (Walliman, 2011). The researcher sat at identified locations on three different occasions as an observer. The observation allowed the researchers to see how creation, storage, sharing, and application of TK among different people in the university was done. There was a checklist that helped in guiding what is to be observed. Before the start of the activity, the respondents were informed. There were three sessions which took an average of 2 hours each with a 15 minutes' break. Other than the formal observation sessions, the researcher made random observations in the universities during the data collection process which helped provide more information in the area of study.

To complement the primary data, a documentary analysis was done. Permission was sought to access specific documents that were read and the content analyzed to find further evidence of TKM in those institutions. Such documents include performance contracts, mentorship policies, staff appraisal forms, reward, ICT, library, research, and innovation policies. Document review was done especially during the hours when the participants were engaged in other university activities.

A combination of data analysis techniques was used to accommodate both qualitative and quantitative data collected during the study. These included: conversation analysis, content analysis, correlation analysis, Chi-square tests, and computer-assisted analysis appropriate for mixed research.
A recorder and field notes were used to store the data. The audio recorded data was then transcribed and merged with the notes obtained during the process and analyzed. This ensured there is objectivity since the analysis is based on what was heard and recorded during the interview and not what the researcher perceives of the case environment. The emerging themes were coded, categorized, and presented and discussed case by case. Narratives were used to describe the themes to convey the findings of the analysis. After data analysis, and interpretation and discussion of the results were done.

Verbal data from the interviews as well as documents in relation to TKM and performance in universities in Kenya were analyzed using content analysis. The documents included

policies (HR, ICT, Library, research, innovation, mentorship, reward), newsletters, appraisal forms, and brochures. These provided insights on how universities are taking care of TK in terms of motivation, rewards, appraisal, promotions, recognition, and general management.

Computer-Assisted Qualitative Data Analysis Software (CAQDAS) was used to analyze qualitative data. This data was then coded and run using the R package to generate themes and categories. R software was used to classify, sort, manipulate, and store qualitative data. Data were then examined and related data linked, organized by themes, and presented. R is a powerful statistical tool for qualitative analysis which has gained popularity in the recent past (Estrada, 2017).

Multinomial logistic regression

Starkweather and Moske (2011, p.1) define a multinomial logistic regression as a "model that is used to predict categorical placement in or the probability of category membership on a dependent variable based on multiple independent variables. The independent variables can be either dichotomous (binary) or continuous (interval or ratio in scale). Multinomial logistic regression is a simple extension of binary logistic regression that allows for more than two categories of the dependent or outcome variable". A multinomial logistic regression model was preferred since the dependent variable is nominal. This is a variable with several unordered categories. The multinomial logistic regression model in which the log odds (chance) of organization performance is modeled as a linear combination of the predictors/ independent variables. One of the approaches to multinomial data is to nominate one of the response categories to act as a baseline or reference.

Findings and discussions

Multinomial logit modeling of the effect of TK on organizational performance

Out of the 65 respondents targeted, the researcher was able to interview 58 key informants. This is 89.23% response rate. Due to other commitments, 7 (10.77%) interviewees were unavailable for the interview. According to Babbie and Mouton (2001, p.261), "a response rate of more than 70% is considered to be very good". Bowling (2002) considers a response rate of 75% and above as good. The results from the individual universities were coded for anonymity (RB, RK, RC, and RU).

This section presents the results of the multinomial logistic regression model in which the log odds (chance) of organization performance are modeled as a linear combination of the predictors/independent variables. To examine the research question on the effect of tacit knowledge on the performance of universities in Kenya. The multinomial logistic regression model was preferred since organizational performance is a nominal multi-level dependent variable – has more than two categorical levels/variables. The table represents the coefficients and p values of each independent variable on the dependent variable (organization performance). The first rows compare the growth and development to the baseline category (efficiency and effectiveness) of organization performance and the second rows compare productivity to the baseline category. The overall model significance for the multinomial logistic regression was examined by the collective effect of the independent variables (Finance, development, human, process, and customer).

The findings were collected against the following research question:

i) How does tacit knowledge contribute to the performance and growth of the university? Explained under the following:

a) Financial focus – return on investments (revenue from students, revenue from staff through offering consultancy services outside the university, research funds coming to the university)

b) Development focus – new products and services (innovations, number of publications, services, mentorship, mentorship pool, new programs/curricula, number of collaborations and partnerships, IT infrastructural base)

c) Human focus – employee satisfaction index (number of employees recruited, staff turn-over rate, employees' expert knowledge, levels of qualifications, expertise, motivation, reward, training, and development)

d) Process focus – policies, procedures, and routines, best practices, culture

e) Customer focus – customer satisfaction index (customer base, customers' growth rate, direct internal communication with customers)

Financial Focus

From table 1, it is evident that a unit increase in finance generation is associated with an increase in the chance of productivity by 542.41 compared to the efficiency and effectiveness of organizations. A unit increase in finance sourcing will increase both growth and development and productivity by 739.45 and 625.65 respectively, thereby improving organization performance. It is evident that finance generation and sourcing are statistically significant in predicting the organization's performance since the p values for both growth and development (p value=0.000) and productivity (p value=0.000) are less than 0.05.

Table 1. Tacit knowledge and organizational performance coefficients and P values

Coefficients:	(Intercept)	Fin Gen	Fin NoFunds	Fin Srcg	Hum Trnv	Hum StfW	Dev Pdct
Grwth & Dev	206.25	-18.53	121.1	739.45	91.43	275.45	-213.78
Prdcvty	-151.41	542.41	-22.93	625.65	-247.59	162.03	-407.54
	Dev Srvcs	Proc Cent	Proc StdAln	Cust comCh	Cust lib	Cust Prog	
Grwth & Dev	-162.84	-275.78	-635.5	286.61	-349.39	251.56	
Prdcvty	0.61	380.93	413.14	123.54	23.57	-270.51	
	MntShp Infor		MntShp ExpStaff		MntShp RwrdSch		
Grwth & Dev	-374.31		-45.85		90.36		
Prdcvty	-547.6		-355.47		-0.59		

P values	(Intercept)	Fin Gen	Fin NoFunds	Fin Srcg	Hum Trnv	Hum StfW	Dev Pdct
Grwth & Dev	0.000	0.432	0.000	0.000	0.0001	0.000	0.000
Prdcvty	0.669	0.001	0.984	0.000	0.1338	0.755	0.716
	Dev Srvcs	Proc Cent	Proc StdAln	Cust comCh	Cust lib	Cust Prog	
Grwth & Dev	0.000	0.000	0.000	0.000	0.000	0.000	
Prdcvty	0.751	0.021	0.426	0.837	0.979	0.000	
	MntShp Infor		MntShp ExpStaff		MntShp RwrdSch		
Grwth & Dev	0.000		0.000		0.000		
Prdcvty	0.488		0.000		0.000		
Residual Deviance:	10.9894						
AIC:	74.9894						

The utilization of tacit knowledge in the form of technical know-how has enabled universities to attract huge funding which has greatly impacted the growth and development and productivity of such institutions in Kenya. Tacit knowledge is acquired and put into use by writing fundable proposals that attract huge funds. RU was noted to be leading in the region. RK attracted a 64.6 Million grant from the National Research Fund (NRF) for the construction of an information communication and technology (ICT) hub in one academic year out of many other applications. Also, two postgraduate students were funded from the same university. Benchmarking was said to be done by other universities locally and consulting in the area of writing fundable research proposals. It is an indication that RU is leading in attracting research funds and it has the experience, the staff are competent and can build capacity in other HLIs. Online documents for research funding by NRF for the 2016/2017 financial year, indicated that 28 MSc., 38 Ph.D., 20 multidisciplinary and multi-institutional projects, and two infrastructure projects were funded at RU (NRF, 2017). RU boosted of over 15 billion research kitty in 2017. It was observed that the two public universities had tangible results in terms of financial resources compared to private universities in the study. The study also observed that two universities (RU and RC) had innovation labs in the form of incubation centers. RK had just won a research grant to construct one.

In support of the current study, European University Association (2008) indicates that, other than government funding, a university can acquire different sources of funding that could impact on their financial structure. On the contrary, when universities do not concentrate more on attracting funds, the chance of growth and development increases only by 121.1 and decreases productivity by 22.93. This is supported by Odundo and Rambo (2013) who stated that once universities engage in entrepreneurial activities they might lose track and focus their attention more on income-generating activities other than teaching. If faculty staff get highly involved in entrepreneurial activities, they might overstretch in terms of working hours, hence activities such as teaching, coaching, and mentorship can be overlooked. Every university is an output of different processes of economic and intellectual growth, they have to find out the equilibrium between teaching, research, developing innovations, and an extensive range of income-generating activities. The government is pushing universities to be in an entrepreneurial paradigm due to many external overwhelming forces (Gibb & Hannon, 2006). The university main mission is to offer teaching, learning, and research. To support the above discussions, figure 3 provides further illustrations from the findings.
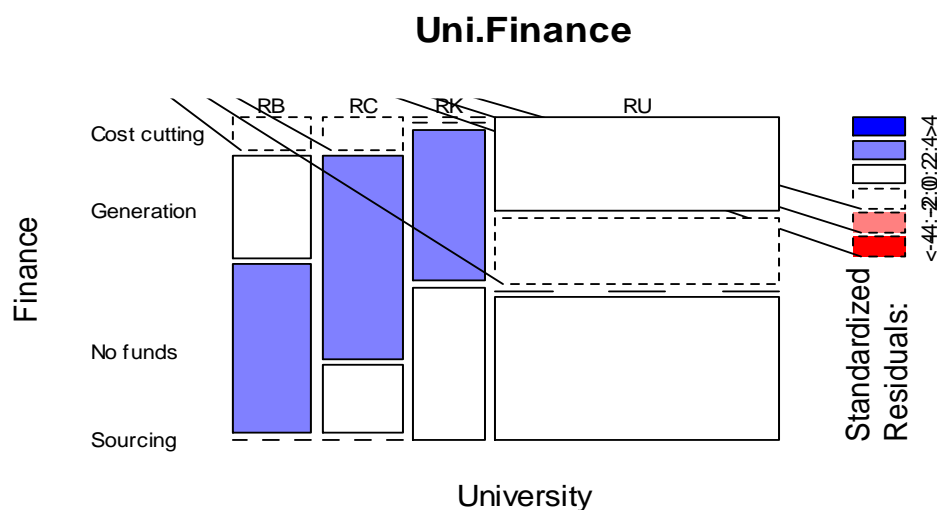

Figure 1. Financial focus contribution within universities

From the mosaic plot above, it can be seen that universities engage in several activities in relation to finance. The results revealed that funds generation in the universities under study accounted for 27.59%, funds sourcing 32.76%, and cost-cutting activities 20.69%. It was reported that universities were not able to attract funds by 18.97%. Despite the activities, it was not above 50%, which displays a limited capacity to boost the financial base. Some responses from the field indicated that they engaged in several income-generating projects.

> RB *"we have reprographic services", "there are a bakery and cafeteria services"* *"farming and selling the products".*
> RC *"we generate income from short training".*
> RU *"conference facilities, conducting research consultancy services, we also have a bookshop"*
> RK *"we have a biogas unit, a greenhouse unit, and a fish farm"*

Human focus

Human capital (expert knowledge, staff welfare, and turnover) was considered to affect organizational performance. From table 1 above, it can be noted that the chance of having high productivity to organizational performance versus efficiency and effectiveness will decrease by 247.59 when there is high turnover in universities compared to when there is low turnover. An improvement in the welfare of staff members will increase the chance of improving growth and development and productivity by 275.45 and 163.03 respectively. As indicated by Kruger and Johannes (2011) fundamentally, people operate at all related functions in an organization and without them, business is basically null. Hence, this study emphasizes the management of human capital as a key strategy for improved performance in universities. Further findings are as displayed in figure 2.

Uni.human
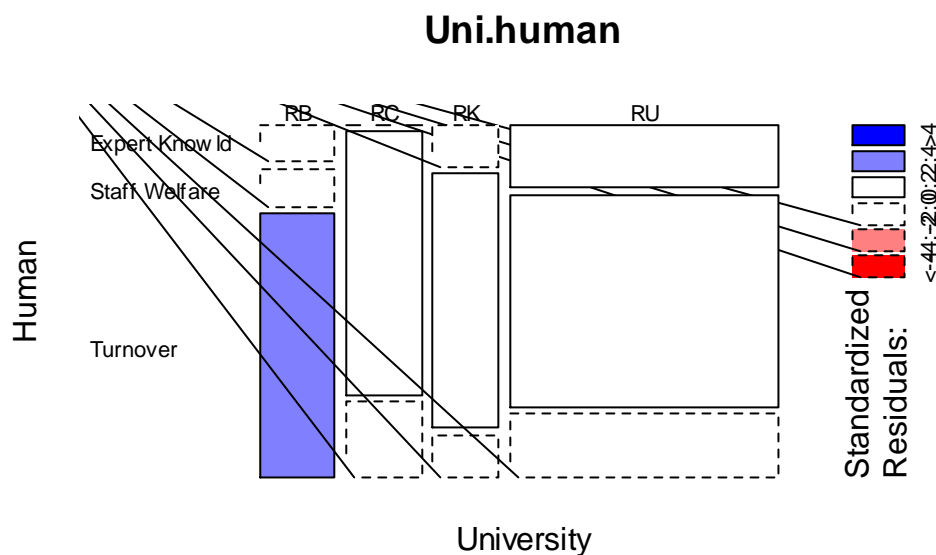
Figure 2. Human focus contribution within universities

Human capital is an important TK element (60.3%) as revealed by the study. Staff turnover rate was at (27.6%) and expert knowledge rated at (12.1%). Taking care of human capital has a positive effect on performance. Staff turnover and lack of job security were revealed as having negative effects on organizational performance. This is supported by Dei and Walt (2018), who established that experts, such as professors, IT officers, librarians, and research fellows were moving from one university to the next in search of better positions, salaries, benefits, or working conditions. This is an indication of poor working conditions in universities. It is clear that staff have varied areas of specializations

which promoted the expert knowledge base as indicated at 12.1%. Some universities were doing averagely well on staff welfare development through activities that support the development of staff members such as, sponsorship to workshops, provision of budgets to support scholarship services, reward and recognition schemes, and providing a conducive working environment thereby greatly contributing to improved performance.

It was revealed that the performance of the employees has also been influenced by the inadequate reward systems in universities in Kenya. There was no formal structure for rewards. It was also noted that only one out of the four universities had a reward policy. Employee's performance has been influenced by the more subjective process rather than objective. In the case of RU, *"staff are also facilitated to attend conferences and workshops".* This was only for staff with papers for presentations. Documents seen at the planning division (PC section) from RU indicated some form of recognition and reward process managed from the office of the Vice-Chancellor at RU. A policy document was produced; sample reports displayed indicating the best performing departments and employees in the university.

Expert knowledge promotes the utilization of TK which promotes application and use thus improved efficiency and service delivery. A variety of expert knowledge builds up the tacit knowledge base of an institution since such individuals can address context-specific challenges that might arise from time to time. Each university has some staff members who are experts or possess some knowledge which vital to the university (Lwoga & Chilimo, 2008). Wamundila and Ngulube (2011) agree that subject matter experts are an important element of knowledge acquisition in universities and they constituted many operational committees. This is an indicator of the role of expert knowledge in decision making in organizations.

In all the four universities, it was observed that there were no adequate staff offices. Some staff had individual offices, others shared, while others did not have offices at all. Deans and heads of departments had individual offices that had access points to the internet and other basic ICT facilities like laptops, desktops, telephones, and printers. These help them to work well without challenges, thus concentrating on research activities and mentoring students. However, lecturers shared offices in some universities while in others there were no offices and instead, there were lecturers' lounges with only tables and chairs. Such an environment does not promote knowledge creation, sharing, and use.

Development focus

When universities concentrate on developing products such as curricula, there is a decrease in growth and development by 162.84 and a very small increase in productivity by 0.61. This is so because having curricula alone and not having the infrastructure to support the same is a challenge. Universities were seen to be having duplicated curricula that were theory-based, hence little impact on growth and development. Also, one of the public universities in the study has a huge number of the student population enrolled in various programs compared to the other three universities, unfortunately, the lecturer student ratio is low which affects productivity.

It is correct to deduce that having large student numbers does not necessarily improve growth and development. Having inadequate service delivery mechanisms decreases the chance of growth and development in the universities by 275.78 while having centralized policies increases productivity by 380.93. Adequate service delivery is statistically significant in predicting organization performance since the p values for growth and development (p value=0.000) is less than 0.05. Consequently, centralized processes are statistically significant in predicting organization performance since the p values for both

growth and development (p value=0.000) and productivity (p value=0.000) are less than 0.05. Having informal mentorship mechanisms in the institutions decreases the chance of growth and development by 374.31 and also decreases an organization's productivity by 547.6. Informal structures are not monitored and individuals are not accountable for their time and resources, hence the poor output. Unavailability of experienced staff decreases growth and development and productivity by 45.85 and 355.47 respectively which is statistically significant in predicting the organization's performance since the p-value for growth and development (p value=0.000) is less than 0.05. Also, the lack of reward schemes to mentor in universities increases the chance of growth and development by 90.36 and increases productivity by 0.59. Mentees have a chance of improving on their capabilities by the mentors if they are motivated enough to carry out extensive mentorship willingly. Rewarding mentors is evident to be statistically significant in predicting the organization's performance since the p values for growth and development and productivity (p value=0.000) is less than 0.05.

The development focus was looked at from three levels; established partnerships, development of products, and services offered (Figure 3).
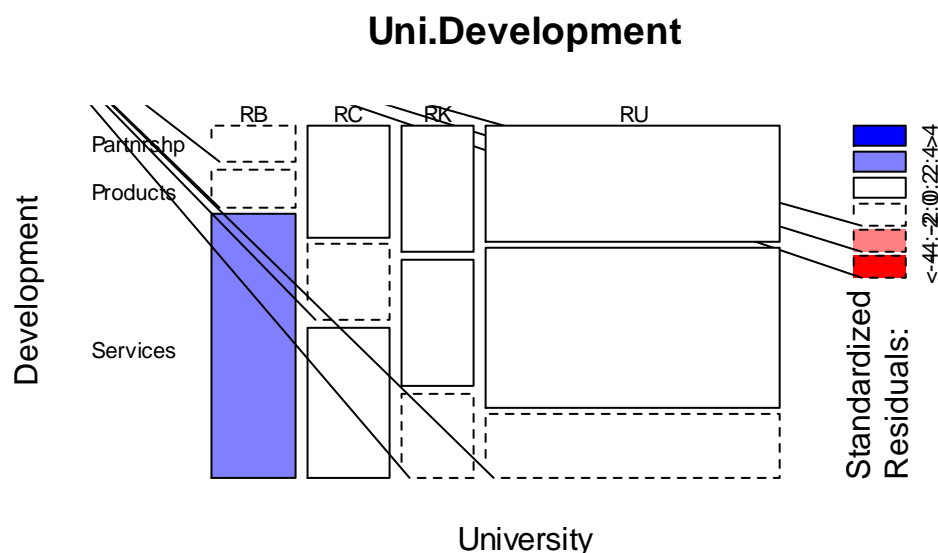

Figure 3. Development focus contribution within universities

There is evidence of established partnerships (31%), product development (36%), and service development (33%) in the selected universities. As a development concept, the institutions have partnered with various institutions, industries, and departments which have resulted in a network of sharing ideas and hence change their actual performance. The current study observed that the four universities had established strategic partnerships and alliances with the industry as well as among themselves. Some partners include institutions like Kenya Accountants and Secretaries National Examination Board (KASNEB), Huawei Technologies Limited, Safaricom, county governments, and information resource providers. Respondents indicated that they have entered into a memorandum of understanding (MoU) with the said institutions.

On products as a development focus, the four universities were seen to be having curricula in different areas of specializations. More emphasis on the role of the curriculum as an element of development focus is put by Kiran, Agarwal, and Verma (2013) in their study on knowledge management in higher education in India. The study sampled 141 respondents in 30 higher learning institutions. The study revealed that tacit knowledge aids in curriculum improvisation or review which enhances interdisciplinary research.

Universities rely on faculty-generated knowledge and traditional means of discovery and transmission of knowledge (Kumar, 2005). The study also observed incubation centers in two out of the four universities. This is a sign of universities appreciating innovations that are a product of tacit knowledge management. "Innovation combines the capacities of a business to implement new processes from the existing ones. It is a new combination of learning new and current knowledge" (Kogut & Zander, 1992, p.383). Innovation contributes considerably to the growth of a business, its capability to compete, and its performance (Janssen, 2013). Chang and Lee (2007) using canonical correlation found in their paper that knowledge storage, knowledge acquisition, knowledge selection, and knowledge diffusion have positive effects on technical innovation.

The selected universities undertake corporate social responsibility (CSR) for the communities around them and thus influence the institution's development around the stakeholders. CSR is an example of the services and the development focus strand. Respondents indicated they participated in community outreach: *RB "we engage in medical camps". RU "we offer talks to youths and sometimes the community on various thematic areas".* The performance of organizations today can no longer be measured on reported profits alone (Smith, 2008). There is a need to engage in community outreach and related activities that are beneficial to the community and other related stakeholders. This finding is supported by Mohamed (2013) in his study on the relationship between corporate social responsibility and competitive advantage in universities in Kenya. The study established that some of the CSR activities universities engage in were educational fora – creating awareness (92%), scholarships (92%), and environmental conservation initiatives. Most importantly, the study showed that 64% of the institutions had well defined CSR mission statement and vision core principles, 76% participated in community events such as donations during famine, and 68% noted that CSR had a significant impact on the performance of their institutions.

In addition to CSR are information technology and communication services. Being in the digital era automation of university services is inevitable. It was observed that the four universities had invested in ICT facilities. Computer laboratories were present though not adequate in relation to the student computer ratio. In some universities, some operations were automated such as students' admissions which have streamlined the admission process. Students' registration was also done online. General management information systems were observed to be in operation. Guyo and Bagaja (2015) indicate that technology dimensions are part of effective knowledge management which includes business intelligence, collaboration, distributed learning, knowledge discovery, knowledge mapping, opportunity generation as well as security structure are important to optimize the knowledge sharing process within the firm. It is also important to note that technology is merely a tool; human factor is the key to effective and efficient KM (Huang, 2008).

Process focused

The process focus strand was used to establish whether there was a process of budgeting for TKM and whether universities had policies related to TKM or general university policies. From table 1 above, the development of more research and innovation stand-alone policies in departments is associated with an increase in an organization's productivity by 413.14 and associated with a decrease in growth and development by 635.5. Most universities have centralized policies that are not reviewed, this decreases the chance of growth and development by 275.78 and increases productivity by 380.93. Further illustrations are displayed in figure 4 below.
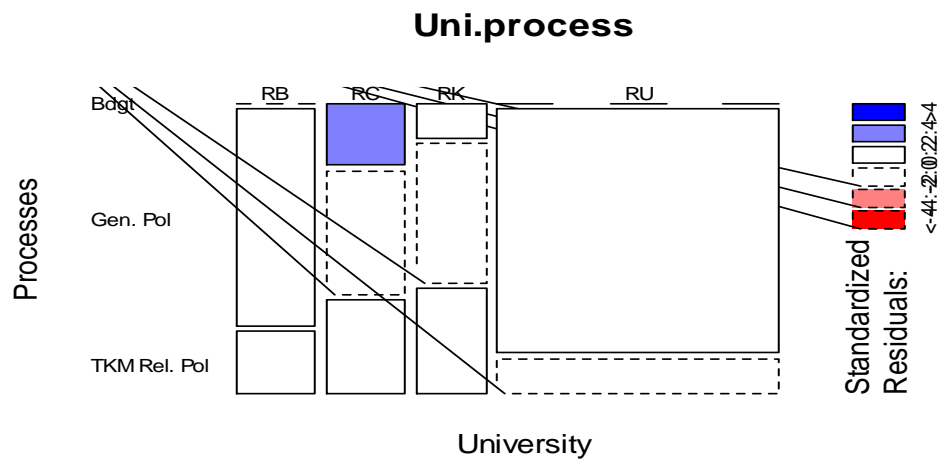
Figure 4. Process focus contribution within universities

Only 5.2% were involved in budgeting for TKM activities. The study revealed that 74.1% were general university policies while 20.7% indicated the presence of tacit knowledge management related policies. Only policies related to TKM were of interest to the study as tabulated in Table 2.

Table 2. TKM related policies available in the selected universities

Documents/Policies	RU	RK	RB	RC
Core values with aspects of (Innovation, creativity, academic freedom)	1	1	1	1
ICT policy	1	1	1	1
Library Policy	1	1	1	1
Research policy	1	1	1	1
Intellectual property right	1	1	0	1
Resource mobilization	1	0	0	0
Mentorship	**0**	**0**	**0**	**0**
Rewards policy	1	0	0	0
Tacit knowledge management	**0**	**0**	**0**	**0**
Performance appraisal forms with an aspect of KM	1	0	0	0
HR Policies (Recruitment & selection)	1	1	1	1

A checklist of TKM related policies was used to identify what was available at the universities. Out of the four universities, none had a tacit knowledge management policy. A mentorship policy was also missing. A lack of TKM policy and other TK related policies greatly undermines the process of TK creation, storage, sharing, and application and use. The importance of a knowledge management policy for the public sector was indicated by a study conducted by the Institute for Applied Economic Research (IPEA) which states that "... the isolated initiatives; the dispersed efforts, often at the same ministry; the inexistence of communication and information sharing, both internally and between organizations, about KM practices; and the unfamiliarity with the subject among members of high administration, middle management and government employees in general, reveal that dissemination of knowledge will only take place if a KM policy is implemented" (Matos, Vairinhos, Batista, Paliszkiewicz, & Cabrita, 2016, p.32). This implies that universities have to develop a tacit knowledge management policy to be able to implement tacit knowledge management in the institution.

Customer focus

Customer focus was assessed under communication channels, programs development, and library support. Table 1 shows that better communication channels in the university improve both growth and development and productivity by 286.61 and 123.54 respectively, thereby improving organization performance. Whenever universities offer market-driven programs, this will increase growth and development by 251.56 and decrease productivity by 270.51 where there is a statistical significance because the p values for growth and development and productivity (p value=0.000) is less than 0.05. Further findings are as Illustrated in figure 5.
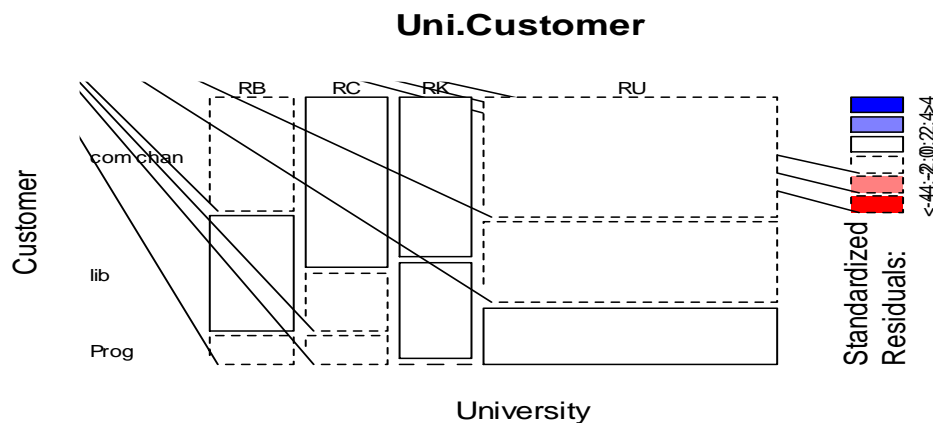

Figure 5. Customer focus contribution within universities

Communication channels exist at (51.7%) thereby enabling interaction with staff and students. Communication and interaction with customers by the universities is through e-learning platforms, SMS, WhatsApp, Facebook, email, websites, direct calling, face-to-face, and noticeboards. WhatsApp groups were a common platform that facilitated TK transfer. E-Learning platforms facilitated TK sharing through MOODLE, this was active at RB. The platform allows students to access content and reading materials from their lecturers. It also allows for question and answer sessions as well as online discussions. The study revealed that lectures upload contents in the form of videos, PowerPoint presentations, and PDFs files for students to access. The findings are supported by Zbuchea, Pinzaru, and Anghel (2014) who assert that the new technologies help universities enhance knowledge management, support the exchange of information, cooperation, and contribute to learning processes and continuous improvement of education and research.

Libraries were identified to support TKM at 32.8%. RU has the richest institutional repository managed on DSpace. This is one of the elements that has boosted the institutions' visibility globally via the web - ranked at position one on webometrics in Kenya. *RU "RU library is proud in this area since; idea generation was born in the library". The library was able to initiate the open access initiative and plagiarism concepts, where we developed a policy to guide these areas". "The library has participated in the promotion of innovation assets of the institution. It is through open access that RU is leading in ranking by making available their research output, we are proud of this.* The findings are supported by Dei and Walt (2018) results which indicated that universities in Ghana had implemented institutional repositories for capturing and storage of knowledge.

Also, market demand-driven programs accounted for (15.5%) of the process focus. Attractive and market-driven courses are as a result of skills and expertise in different areas of specialization. Maiga (2017) research on knowledge sharing among academics in

selected universities in Tanzania revealed that (68%) use their knowledge assets were used to develop the curriculum. The percentage difference is quite big compared to the current study's revelation.

Conclusions

Universities established the effects of tacit knowledge on organizational performance by use of five performance indicators as follows: financial focus, customer focus, human capital focus, development, and process focus. The main mission of a university is to offer teaching, learning, and research. Since universities are in the category of knowledge-intensive firms, its workforce is highly qualified. It is only in universities that you get a large pool of professors and doctors who are in different academic cadres and at the same time holding different administrative positions, some of whom have expert knowledge. This could enhance the utilization of expert knowledge in TKM initiatives at the universities. Performance is the output of all work processes in an organization. All institutions strive towards being at the top. For improved performance, universities have to ensure there is the right input. Institutions can do well by managing their tacit knowledge. Tacit knowledge in the selected universities is not fully explored and therefore it is under threat. Several universities have concentrated on managing explicit knowledge resources. It is no doubt that universities must reengineer their business processes for them to be competitive. It is clear that human capital highly contributes to the institution's performance besides other organizational resources. Tacit knowledge enhances good performance.

The paper makes the following recommendations based on the findings as follows;
Since human capital is crucial in the management of tacit knowledge and further contributes to organizational performance, there is a need for universities to manage human capital more candidly. Human capital should be appreciated through motivation, good and sustainable working conditions, and user-friendly policies.

Once structures, mechanisms, and policies that address human capital have been put in place, universities should carry out regular and periodic tacit knowledge audits. This will give them a chance to establish the knowledge needs of the organizations as well as available tacit knowledge resources (what, who, where, and how knowledge flow). Tacit knowledge audits will help universities to develop their knowledge map which will be a starting point to tacit knowledge management.

Further to human capital improvement, is the establishment of formal mentorship programs to facilitate tacit knowledge sharing. This is can be made possible through the establishment of mentorship directorates/departments to support the implementation process. Such programs will build a base for human capital and a good knowledge base that will augur well with enhanced structural resources. Universities should provide research and innovative environment to encourage creativity. Innovation hubs, science parks, and incubation centers should be established in universities. This will lead to the production of products and services, like demand-driven curricula, advanced systems, and patented innovations. Universities should establish internal and external collaborations for research, interdisciplinary or multidisciplinary.

In the current competitive world, universities are highly competing for students. To remain relevant and attractive, universities in Kenya must ensure that they offer quality, market-driven, and relevant programs. Universities need to offer more practical benefits than theory classes, be innovative, entrepreneurial, and establish strategic partnerships

and linkages with the industry. The development of the expert knowledge base is also a requirement.

Managing human capital through consistent recognition and incentives motivates staff to work hard on their own and become productive. Nurturing positive personality habits escalates growth in terms of staff output which directly influences performance.
Training and capacity building workshops on tacit knowledge management should be organized to increase tacit knowledge awareness.

Implications and further research

The study established the presence and implementation of general university policies but gaps in the TKM practices were clearly observed as a result of a lack of a tacit knowledge management policy in the selected universities. Policymakers, university councils, and management boards, higher education regulators and other relevant bodies like the Commission for University Education (CUE), National Commission for Science, Technology and Innovation (NACOSTI), Kenya Industrial Property Institute (KIPI), Linking Industry with Academia Trust (LIWA), Ministry of Education, and Kenya National Innovation Agency (KENIA) can support the TKM agenda and implementation initiatives in HLIs. In the current knowledge-based society, institutions of higher learning need to remain relevant and competitive. TKM practices need to be fully understood before adoption.

After studying the literature and theories of knowledge management, the researcher was able to identify several studies on specific areas of tacit knowledge management. However, it was revealed that literature and theory purely on tacit knowledge management was scarce. The majority of studies were largely on knowledge management hence giving a chance for the current study which might be an authority in the tacit knowledge management literature.

The researchers propose the following areas for further study: a) talent management and organizational performance. It was evident that human capital supports organizational performance, however, for human capital to be effective they have to be taken care of, they need motivation and rewards and a conducive environment that promotes creativity; b) tacit knowledge audit and organizational performance. A tacit knowledge audit is a key attribute of a knowledge organization yet it was not in universities. Audits were done but they were general and did not specially target tacit knowledge. A study on the relationship of tacit knowledge assets would be of significance since it will highlight the areas of concern of such an audit process.

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